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DEPARTMENT OF THE ARMY FIELD MANUAL

**QUARTERMASTER
AIR EQUIPMENT
REPAIR AND DEPOT
COMPANY**

OBSOLETE

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HEADQUARTERS, DEPARTMENT OF THE ARMY

JULY 1961

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No. 10-41 }

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., 10 July 1961

QUARTERMASTER AIR EQUIPMENT REPAIR AND DEPOT COMPANY

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CHAPTER 1

INTRODUCTION

1. Purpose and Scope

a. This manual provides information necessary for the operation and employment of the Quartermaster Air Equipment Repair and Depot Company (TOE 10-417). It is a guide for officers and enlisted personnel of the company and for other persons concerned with its employment and operation.

b. The manual covers the mission, organization, employment, and operation of the company, its operating platoons, and sections.

c. Additional information required for the performance of company functions is contained in appropriate Department of the Army publications listed in appendix I.

d. The material presented herein is applicable, unless otherwise specified, to both nuclear and non-nuclear environments.

2. Application

The material contained in the manual is based on policies current at time of preparation and is intended to be used as a guide, and not as an inflexible set of rules for the successful accomplishment of assigned missions. Company operation must be adapted to specific situations by experience, judgment, and intelligent application of basic operating principles. Changes in policy and organizational structure may require modification of the information presented.

Field experience may also suggest modification. Users are requested, therefore, to submit recommendations and suggestions for improvement. Comments should be keyed to the specific page, paragraph, and line of the text for which change is recommended. Reasons should be provided for each change to insure understanding and evaluation. Comments should be submitted direct to the Commanding General, Quartermaster Training Command, U.S. Army, Fort Lee, Va.

CHAPTER 2

THE UNIT

Section I. GENERAL

3. Mission

The mission of the company is to establish and operate a quartermaster depot for the supply, field maintenance, and reclamation of quartermaster air delivery equipment.

4. Assignment and Control

The company may be assigned to the theater army logistical command, a field army, or an independent corps. It is normally attached to a Headquarters and Headquarters Detachment, Quartermaster Battalion (TOE 10-536).

5. Capabilities

a. The company, at full strength, is capable of—

- (1) Receiving, classifying, and performing field maintenance on quartermaster air delivery equipment, as specified in its mission.
- (2) Requisitioning, receiving, storing, and issuing quartermaster air delivery equipment.
- (3) Supplementing the maintenance activities of other units engaged in air delivery of personnel and equipment.

b. TOE 10-417 indicates positions that can be filled by non-United States military personnel. The number of such personnel to be employed is determined by the major command to which the company is assigned

and depends upon the productive capacity of available personnel, number of shifts, and other local conditions. Interpreters and translators required for operation under such conditions will be provided from appropriate teams available to the theater army commander.

c. Further augmentation may be made, when authorized, by appropriate teams and detachments of the Quartermaster Service Organization (TOE 10-500).

6. Related Units

The company, in the performance of its mission, supports other quartermaster units involved in airborne support activities. Principal among these are the—

a. *Airborne Division Quartermaster Parachute and Maintenance Company.* This company (TOE 10-337) is organic to and supports the airborne division by providing parachutes and other items used for the air delivery of personnel, supplies, and equipment. The company is capable of packing, rigging, and loading the supplies and equipment that accompany the division during an airborne assault. Once the division is committed, continuing air delivery support is normally provided by a Quartermaster Aerial Supply Company (TOE 10-407). The company is charged with organizational maintenance of its organic parachutes and allied quartermaster air delivery items. Field maintenance or maintenance beyond the capability of the division quartermaster parachute and maintenance company is evacuated to the next higher echelon for maintenance or direct to the quartermaster air equipment repair and depot company.

b. *Quartermaster Aerial Supply Company.* This company is charged primarily with the rigging and loading of all classes of supply for air delivery. It normally operates in the communications zone or the army area in the vicinity of air terminals and supply depots. It is the principal source of support for aerial resupply for the airborne division after the assault phase of an airborne operation and supports the field army in aerial resupply both for emergency and normal requirements. It is normally placed in direct support of the airborne division for in-garrison operations. The company is charged with organizational maintenance of parachutes and allied quartermaster air delivery items. Field maintenance is performed by the quartermaster air equipment repair and depot company.

c. *Quartermaster Field Maintenance and Service Company.* A limited responsibility for supply and maintenance of quartermaster air delivery equipment also exists within the Quartermaster Field Maintenance and Service Company (TOE 10-448). This company may be a part of a Quartermaster General Support Battalion (TOE 10-445) in the army area. It may be attached to a Headquarters and Headquarters Detachment, Quartermaster Battalion (TOE 10-536) in the communications zone. It contains a parachute packing and maintenance section that supplies and performs organizational maintenance on parachutes and other quartermaster air items. The section is capable of operating independently when administration, messing facilities, and supply support are provided. It evacuates equipment requiring maintenance beyond the company's capability to the next higher echelon

capable of performing maintenance on quartermaster air type equipment.

d. *Battalion Headquarters.* The quartermaster air equipment repair and depot company has a special relationship with the quartermaster battalion headquarters to which it may be attached. From battalion headquarters, the company receives its mission assignment as well as policies and procedures that govern such functions as company activities, administration, and supply. The battalion headquarters specifies the general location of operating sites, and bivouac areas. It coordinates company defense plans with those of other units attached to the battalion. It coordinates company communication within the battalion net.

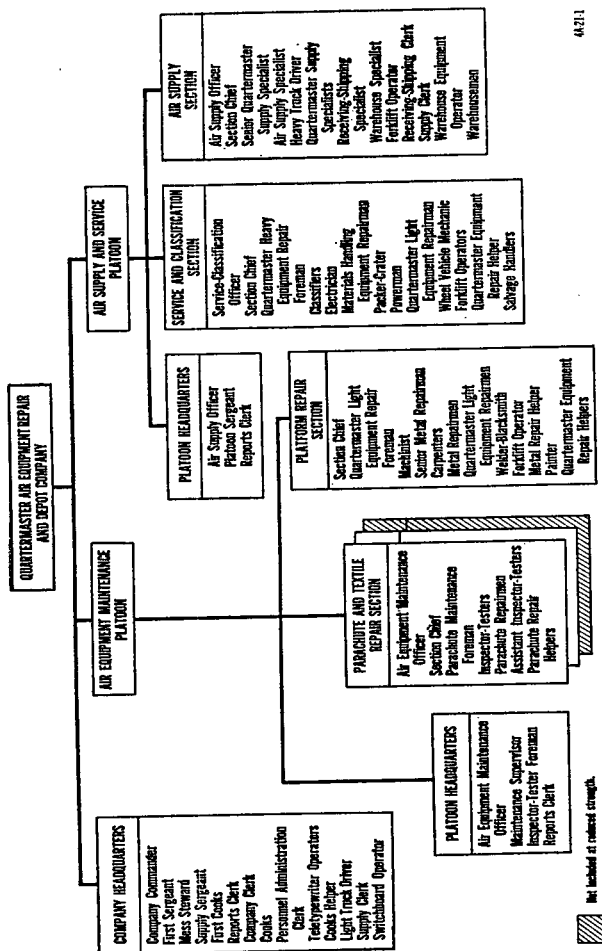
Section II. ORGANIZATION AND PERSONNEL

7. Company

The company (fig. 1) is organized into company headquarters, an air equipment maintenance platoon, and an air supply and service platoon. The air equipment maintenance platoon is composed of a platoon headquarters, three parachute and textile repair sections, and a platform repair section. The air supply and service platoon is composed of a platoon headquarters, a service and classification section, and an air supply section.

8. Company Headquarters

Company headquarters is the command element of the company. It is responsible for the effectiveness of company operations; preparation and transmission of required report data; supply, mess, training, and



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Figure 1. Organizational chart of quartermaster air equipment repair and depot company.

billeting of company personnel; and maintenance of organic equipment and weapons.

a. The company commander directs and supervises the operation and employment of the unit. He is responsible for the administration, training, discipline, and supply of the company. He must plan, direct, and manage the company to—

- (1) Perform its assigned mission in the field.
- (2) Accomplish its own administration.
- (3) Maintain standards of discipline.
- (4) Maintain standards of proficiency and training.
- (5) Defend itself and its installations against enemy attack.

b. The first sergeant is the principal enlisted assistant to the company commander. He coordinates such activities as mess, supply, discipline, and communications. He calls all company formations and supervises administration within company headquarters. He acts as the representative between the company commander and the enlisted personnel of the company.

c. The mess steward is responsible for the efficient operation of the company mess. He supervises the cooks and other mess personnel in the preparation and serving of company meals.

d. The supply sergeant is charged with the receipt, storage, and issue of company supplies and the operation of the company supply room.

e. The personnel administration clerk is responsible for maintaining company personnel records. He may perform these duties within the administrative section or he may be detached to the battalion headquarters to which the company is attached.

f. The reports clerk prepares the required reports and performs clerical duties as required.

g. The teletypewriter operators and the switchboard operator install, operate, and maintain the company communications wire net.

h. The light vehicle driver drives for the company commander, serves as messenger, and performs duties of the company mail clerk.

9. Air Equipment Maintenance Platoon

The air equipment maintenance platoon provides field maintenance for quartermaster air delivery equipment.

a. Platoon Headquarters.

- (1) The air equipment maintenance officer supervises operations of the platoon.
- (2) The maintenance supervisor assists the air equipment maintenance officer in the development of production schedules and maintenance procedures for platoon operations, the allocation and assignment of work to sections of the platoon, and assists in the coordination of platoon operations with other elements of the company.
- (3) The inspector-tester foreman supervises and directs the inspection activities of air delivery equipment repaired by the platoon.
- (4) The reports clerk maintains necessary records and charts, and prepares and submits required reports to company headquarters. He also serves as light truck driver for platoon headquarters.

b. Parachute and Textile Repair Section.

- (1) The air equipment maintenance officer, as-

sisted by the section chief, directs and supervises the inspection and repair of parachutes and textile components of air delivery containers. He plans work assignments, determines additional requirements for personnel and equipment, and assigns personnel and equipment to accomplish the assigned workload.

- (2) The inspector-testers and assistants perform initial and final inspections and tests on parachutes and textile components of air delivery equipment.
- (3) The parachute maintenance foreman directs and supervises the parachute repairmen and helpers, who perform the required maintenance on parachutes and textile components of air delivery equipment.

c. Platform Repair Section.

- (1) The section chief directs and supervises the maintenance and repair of wood and metal components required to rig platform loads for air delivery. He estimates the requirements for operating supplies, and assigns personnel, supplies, and equipment as required to accomplish the assigned workload.
- (2) The machinist and the metal repairmen and helpers, fabricate and repair metal parts and components of platform load rigging equipment. The welder-blacksmith fabricates and repairs metal platform load rigging components.
- (3) The quartermaster light equipment repair foreman supervises the quartermaster light

equipment repairmen and helpers, who perform mechanical repair and maintenance on wood and metal platform load rigging components.

- (4) The carpenters construct and repair wooden rigging components as required. The painter paints newly constructed or repaired wood and metal components.
- (5) The forklift operator operates the forklift truck used to handle air delivery platforms undergoing maintenance.

10. Air Supply and Service Platoon

The air supply and service platoon is responsible for the requisition, receipt, storage, and issue of quartermaster air delivery equipment, and provides for the receipt, classification and disposal of unserviceable equipment. In addition, the platoon is responsible for providing organizational maintenance on sewing machines, vehicles, generators, and other equipment organic to the company.

a. Platoon Headquarters.

- (1) The air supply officer commands the platoon. He supervises the service and classification activities of the platoon and the computation of requirements for air delivery equipment, as well as the requisitioning, receipt, storage, and issue of supplies. He is assisted by the platoon sergeant in planning, coordinating, and supervising platoon operations.
- (2) The reports clerk prepares the necessary records and reports, performs other clerical duties as required, and drives the light truck.

b. Service and Classification Section.

- (1) The service-classification officer supervises the service, classification, and disposal activities of the section, and the organizational maintenance of equipment organic to the company.
- (2) The section chief assists the service-classification officer in planning work assignments and determining requirements for personnel and equipment. He assists in assigning personnel and equipment to provide maximum support for the supply and maintenance activities of the company.
- (3) The quartermaster heavy equipment repair foreman assists the service-classification officer in the maintenance of sewing machines, materials handling equipment, generators, and other organic equipment. He supervises the activities of repair personnel of the section.
- (4) The classifiers perform maintenance classification inspections of all air delivery equipment received for repairs. They check all damaged items and determine the degree and type of maintenance required for each item.
- (5) The electrician installs and maintains the electrical system providing power for the operation of sewing machines and other equipment. The powerman installs, operates, and performs organizational maintenance on motors, generators, and allied control and starting equipment organic to the company.
- (6) The quartermaster light equipment repair-

man, quartermaster equipment repair helper, materials handling equipment repairman, and wheel vehicle mechanic perform organizational maintenance on quartermaster equipment as well as vehicles assigned to the company.

- (7) The salvage handlers, packer-crater, and forklift operators assist in the inspection, classification, and disposal of quartermaster air delivery equipment, deliver items to be repaired to the maintenance sections, and assist the air supply section in receiving and shipping activities. The salvage handlers and packer-crater also serve as supply handlers, and one salvage handler drives the light truck.

c. Air Supply Section.

- (1) The air supply officer, assisted by the section chief, directs and supervises the requisition, receipt, storage, and shipment or issue of quartermaster air delivery equipment. He also supervises personnel engaged in computing the requirements for air delivery equipment and operating supplies.
- (2) The air supply specialist identifies and coordinates the requisitioning, classification, and issue of quartermaster air delivery repair parts and maintenance operating supplies.
- (3) The receiving-shipping specialist, assisted by the receiving-shipping clerk, supervises the receipt and shipment of supplies and equipment handled by the section.
- (4) The quartermaster supply specialists and supply clerk prepare requisitions, and main-

tain stock accounting and control records, as required.

- (5) The warehouse specialist coordinates and supervises storage activities and directs the heavy truck driver, forklift operator, warehouse equipment operator, and warehousemen in the mechanical and physical handling of supplies and equipment. One warehouseman also serves as a light truck driver.

Section III. EQUIPMENT

11. General

Unless otherwise indicated, items of equipment authorized by TOE 10-417 are the latest adopted items. Priorities of issue and/or issue of substitute items are established by current supply directives. The equipment indicated in the TOE is the minimum essential to accomplish assigned company missions. Items of clothing, equipment, components of sets and kits, repair parts, tools, and expendable items are authorized in accordance with applicable tables of allowances, technical manuals, supply manuals, and other authorization documents listed in appendix I. Additional equipment not covered by pertinent authorization documents must be obtained in accordance with AR 725-5.

12. Vehicles

The company is authorized sufficient trucks and trailers for internal administration and operational purposes. Additional transportation must be made available for motor movement of the company.

13. Communications

In order to operate effectively, the company is provided with a teletypewriter set, a manual telephone switchboard with 12 connections, and six telephone sets. The manual switchboard and the teletypewriter set are allocated to company headquarters. Telephones are allocated to company and platoon headquarters and to each section of the air supply and service platoon. The manual switchboard is connected to the nearest area center for entrance into the area communications system. The teletypewriter is used to expedite the handling of requisitions, shipping instructions, and movement of supplies to supported units. The communications wire net is installed, operated, and maintained by the teletypewriter operators and the switchboard operator.

14. Specialized Equipment

a. General. In order to avoid possible damage to electrical equipment and to insure proper operation, the supporting engineer utility organization should be furnished characteristics, such as amperage, voltage, and phase of electrical equipment to be used. The equipment and circuits used should be compatible.

b. Air Maintenance Equipment.

- (1) *Sewing machines.* The company is provided with several types of sewing machines required for repair of parachutes and allied quartermaster air delivery equipment. It has light-duty machines to repair parachute canopies; medium-duty machines to repair duck, canvas, and light webbing; and heavy-duty machines to repair heavy canvas, webbing, slings, and pack trays. It also has darning

machines and special duty machines to anchor suspension lines. Operating characteristics and capabilities of these machines are prescribed in the appropriate technical manuals in appendix I.

- (2) *Cloth-cutting machines.* The company is provided with circular-knife cloth-cutting machines. The machines are used to cut textiles and multiple layers of fabric and webbing.
- (3) *Packing-repair and inspection tables.* The company is provided with sectional type parachute packing-repair tables each section of which is 144 x 36 x 32 inches. A packing-repair table normally consists of four sections with an overall length of 576 inches, but it may be extended by adding sections as required. The sections of the packing-repair tables may be used separately adjacent to sewing machines or they may be assembled in various combinations to facilitate parachute packing and repair. The company is also provided with inspection tables which are of the shadow-inspection type.

c. *Materials Handling Equipment.* The company is provided with materials handling equipment to expedite the receipt, storage, and issue of quartermaster air delivery type equipment and to move equipment being repaired between operating sections. The rough-terrain forklift trucks may be used in conjunction with warehouse tractors and trailers to handle heavy items of equipment. Gravity roller conveyor sections may be used for the receipt of incoming items for inspection

and classification, and for the disposition of unserviceable material. Instructions covering the operation, capabilities and maintenance of this equipment are contained in the appropriate technical manuals listed in appendix I.

d. Parachutes. The company is authorized troop-type personnel parachutes so that qualified parachutists may retain their jump proficiency.

15. Maintenance

The company commander is responsible for the dissemination of instructions and procedures for maintenance operations. He must make certain that these instructions and procedures are complied with by all members of his command and that authorized maintenance materials are constantly available.

a. Each platoon leader, section chief, and other supervisor will make certain that the personnel under their jurisdiction are trained in proper preventive maintenance procedures. He must inspect the supplies and equipment under his control to make certain that prescribed maintenance procedures are followed.

b. Operators of vehicles, sewing machines, and other equipment have the chief responsibility for preventive maintenance on their equipment. They should notify the maintenance mechanics or other designated personnel of repairs that are necessary on their equipment. Specific procedures for the maintenance of trucks and trailers are contained in TM 38-660-2 and the appropriate vehicle technical manuals. Specific instructions for the maintenance of the materials handling equipment assigned to the unit are contained in TM 10-1600 and the applicable technical manuals listed in appendix I.

CHAPTER 3

OPERATIONS

Section I. CONCEPT

16. General

The circumstances of modern warfare and developments in air transportation make air delivery of supplies a normal procedure rather than an emergency measure for alleviating supply deficiencies. Tactical operations can be planned on the basis of supply by air. These plans may include the landing of supplies where airstrips and related air facilities are in control of friendly forces. They may also include the air delivery of supplies by parachute or free drop to units in contact with or committed against the enemy.

17. Air Delivery Equipment Support

The quartermaster air equipment repair and depot company supports quartermaster operating units and other Army elements by supplying and maintaining quartermaster air delivery equipment.

a. Maintenance. In performing its maintenance mission, the company can support either an airborne force equivalent to an airborne division or one quartermaster aerial supply company. When necessary, it can also supplement the maintenance activities of other units engaged in the air delivery of personnel and equipment, and provide field maintenance of quartermaster air delivery equipment utilized in Army aircraft in the communications zone or combat zone.

b. Supply. In its supply mission, the company can compute requirements for, receive, store, and issue quartermaster air delivery equipment as required in the theater of operations.

Section II. SITE SELECTION AND LAYOUT

18. Site Selection

The general operating area for the company is normally designated by the controlling headquarters to conform with the overall operational plan of the command. Within this general area, specific sites for company headquarters and operating elements of the company are determined by the company commander. Factors influencing the decision are terrain, defensibility, and conditions existing in the general area designated for the company.

a. More important is the mission of the company and the special requirements that characterize company operations. Because the company employs equipment that imposes a requirement for buildings, the condition and availability of existing facilities are prime considerations. It may be necessary to construct temporary buildings if existing ones cannot be modified or rehabilitated. Tents can be requisitioned to provide shelter for operations and supplies that require protection from the elements. Availability and capability of facilities for providing power must also be taken into account.

b. The availability of transportation facilities is another major consideration. The company should be located as close to main road and rail nets as dispersion factors will permit.

- (1) One of the distinguishing characteristics of an airborne operation or of the delivery of supplies by air is that the materiel to be delivered must be packed, rigged, and loaded. In the case of an airborne operation, much of this work must be done in marshalling areas. In cases where air delivery is being employed as a means of supply, it is desirable that the work be accomplished at depots so that the prepared materiel can be moved directly to departure airfields. This objective is consequently an important consideration in the determination of the location for a quartermaster aerial supply company which is the unit primarily concerned with the preparation of materiel of all technical services for air delivery.
- (2) At the same time, that objective influences the location for the quartermaster air equipment repair and depot company as it is this unit that provides backup supply and maintenance support to the quartermaster aerial supply company. In any event, the number and location of marshalling camps; the location and capability of airfields; time by which supplies must be ready for loading; and the risk that can be accepted in the light of enemy nuclear and conventional capability are among factors that also influence selection of sites for the quartermaster air equipment repair and depot company.

19. Space Requirements

Space requirements for the company should be based

upon the full capabilities indicated in TOE 10-417. Calculated upon that basis as well as upon factors developed for the space needed to set up and operate organic company equipment, it is estimated that all company operations can be performed in an area of approximately 40,000 square feet. This figure is presented for guidance only and is based on the calculated space requirements for the operating elements of the company only as shown in appendix III. Expressed in terms of building requirements, these figures indicate that the operating elements of the company would require six 48' by 112' buildings.

20. Layout

The layout for the company is determined by the company commander. It is based on the specific mission to be performed, size and characteristics of the operating site, and the type of operation (fig. 2). The following considerations are generally applicable:

a. Company Headquarters. The company headquarters area should be located as close as possible to the operating area. It should contain the company supply room, orderly room, messhall, living quarters, and vehicle parking area.

b. Air Supply. Within the air supply section area, warehouses and buildings should be located next to a railroad siding and be surrounded by hardtop surfaces. An open storage area may be maintained for items not affected by exposure to the elements.

c. Maintenance. The maintenance area should be arranged to provide for the most effective repair procedures. It must be set up to accommodate parachute, textile, and wood and metal repair activities.

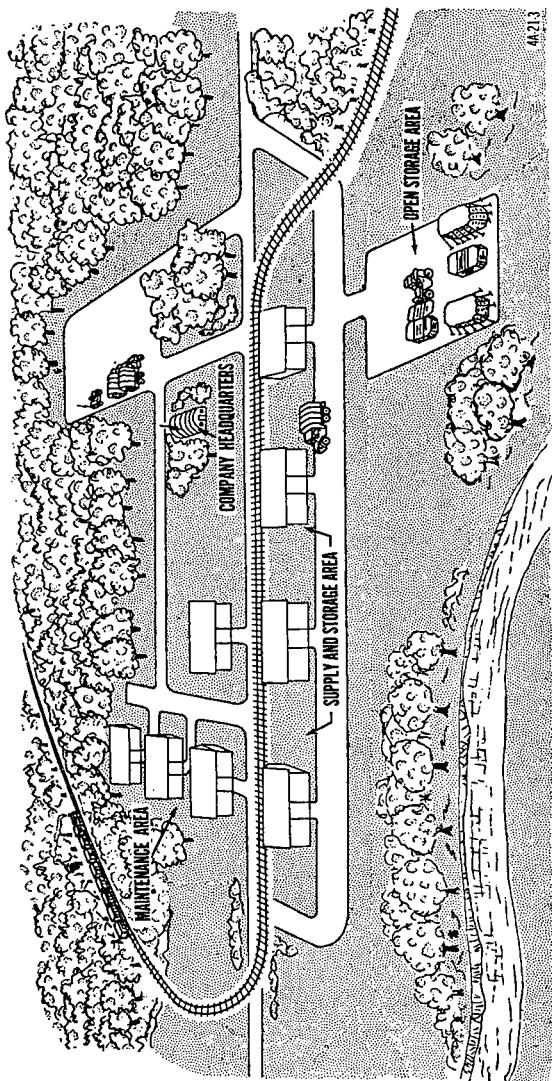


Figure 2. Layout of quartermaster air equipment repair and depot company.

(1) *Parachute and textile repair shop.* The parachute and textile repair shop may be set up in a separate building or in a designated part of one building that accommodates the company's entire maintenance operation. Parachute and textile items should be kept in covered facilities preceding, during and following repair activities. The parachute and textile repair shop should include the following features:

(a) *Bins for items received.* Bins should be constructed with a smooth finish and labelled for storage and segregation of air delivery equipment.

(b) *Shakeout area.* Personnel parachutes, extraction parachutes, and light cargo parachutes may be dried and shaken out in an indoor shakeout room or an outdoor shakeout tower. The shakeout operation frees the parachute of foreign matter resulting from a jump or drop. TB 10-501-1 describes shakeout procedure.

(c) *Initial inspection area.* The initial inspection area should include a shadow inspection table for the inspection of parachute canopies and a worktable for the layout of parachutes. Four packing tables should be used for inspection of other textile and fabric items to be repaired. The shadow inspection table should be convenient to parachute storage bins in order to decrease handling requirements. Following initial inspection, items are classified as service-

able, unserviceable, or salvage, and stored in the appropriate bin section. In the unserviceable section, items are marked as to type of repair required.

- (d) *Machine and work area.* The machine and work area contains sewing machines, tables, and bins. All machines except one in the special machines area are located adjacent to a worktable. In the work area, a table is used for grommet setting and other light hardware repairs. Items of equipment awaiting final inspection are put in smooth-finished bins near the final inspection table. The bins are marked for convenient and accurate sorting of items.
- (e) *Final inspection area.* The final inspection area includes tables for the inspection of parachutes and loose items. A copy of the operating procedure for final inspection will be attached to each table. Loose items that have received final inspection will be sent to storage. Personnel parachutes that have received final inspection will be rigger-rolled and sent to storage. After final inspection, cargo parachutes will be rigger-rolled, inserted in deployment bags and then sent to storage.
- (f) *Separated activities.* Physical separation of serviceable and unserviceable parachutes should be maintained during all stages of inspection, repair, movement, and storage. Parachute packing activities should be separated from all repair and maintenance

activities either by a separate building or tent or by partitioning.

(2) *Platform repair shop.* The platform repair shop should be located indoors so that repair operations may be performed in covered space. Items awaiting repairs may be stored in open or covered facilities, as necessary.

(a) Items are removed from the storage area and inspected, tested, and repaired in areas used for the repair of metal, wood, and webbing assembly components. Non-repairable items are put in salvage bins.

(b) Following final inspection, items are stored in open or covered facilities as necessary, for issue to organizations.

21. Work Flow

The company commander must plan the work flow to gain the most effective results from available facilities. He should make a real effort to design his work flow and layout at the same time since the work flow will depend upon the type and condition of the facilities the company uses in performing its operations. If, for example, it is possible to locate the operating elements in a single building, he may design a work flow similar to that shown in figure 3. If, on the other hand, the platoons or sections must work in separate buildings, it will be necessary for him to plan the flow of work to fit the type and numbers of buildings and to take the distances between buildings into account.

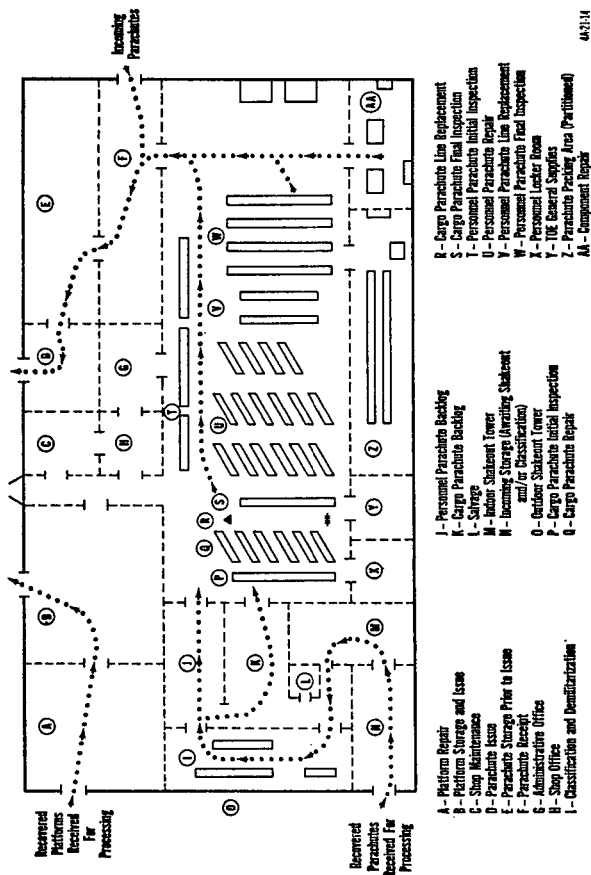


Figure 3. Suggested shop layout and work flow (one building).

a. *Air Supply and Service Platoon.* The air supply and service platoon is responsible for all activities pertaining to the supply of quartermaster air delivery equipment.

- (1) *Air supply section.* The air supply section computes requirements for this equipment and submits them to the appropriate theater agency for transmission to the zone of interior. It receives the incoming supplies, stores, and issues them.
- (2) *Service and classification section.* The service and classification section receives and classifies all quartermaster air delivery equipment turned in by supported units. All equipment is inspected when received. Serviceable items are placed in stock for reissue. Economically repairable items are delivered to the appropriate sections of the maintenance platoons for repair. Scrap and items that cannot be economically repaired are salvaged.

b. *Air Equipment Maintenance Platoons.* The air equipment maintenance platoons repair parachutes, wood and metal items, and related quartermaster air delivery equipment. They normally operate on a production-line basis but may, when required, move personnel and equipment to perform on-the-spot maintenance or modification. Items repaired by the air equipment maintenance platoons are inspected and, if serviceable, picked up by the air supply and service platoon for return to stock. Personnel of the platoon maintain rigging proficiency by packing personnel

parachutes used by the unit for training jumps, and by drop-testing repaired parachutes.

23. Standing Operating Procedures

To achieve the method of operation indicated in paragraph 21, the commander should demand the preparation of and compliance with standing operating procedures. Standing operating procedures (SOP's) are sets of instructions which the commander desires to make routine. They should cover all operations—administrative, technical, and tactical—and should be made available to all personnel to serve as guidelines to be followed in the absence of instructions to the contrary. The SOP's should be changed as necessary to meet changing conditions or to effect modifications in existing practices. The amount of detail depends upon the state of training of the company, but must be sufficiently complete to serve as a guide for new arrivals in the unit. Further, they should not be so restrictive as to prevent the exercise of judgment or initiative by subordinates in specific situations. Normally, the battalion to which the company is attached will also provide basic guidance in the form of SOP's to which the company SOP must conform.

a. When properly prepared, SOP's serve to—

- (1) Simplify and shorten orders, expedite transmission of orders, and help insure their understanding.
- (2) Simplify the training of personnel, especially replacements.
- (3) Promote teamwork and understanding within the unit and higher headquarters.
- (4) Facilitate and expedite operations.

(5) Minimize confusion and error.

b. The SOP's should cover both the internal and external operations of the company. The SOP's prescribing the procedures and organization for internal operations of the company should cover the administrative, technical, tactical, training, and safety aspects of those operations.

- (1) Administrative procedures covered by the company SOP's include such items as communications, mess, administrative duties of personnel, and organizational supply.
- (2) SOP's dealing with the technical aspects of the company's operations should include such items as procedures for admitting items to the company shops for repair, flow of work through the shops, inspections, duties and responsibilities of shop sections, and release of work.
- (3) Procedures such as interior guard, movement, area defense, destruction plan, and air, chemical, biological, and radiological defense should also be covered by an SOP.
- (4) Since company personnel will constantly be undergoing some form of training, an SOP should be prepared covering this aspect of company operations. The SOP on training will deal with such items as on-the-job training, cross-training of personnel, combat training, *etc.*
- (5) A safety SOP should be prepared to cover such items as fire prevention, the use and storage of flammable material, reporting of

accidents, and the designation of a safety officer and safety committee.

c. In addition to internal operations, the company should have an SOP informing supported units of the procedures that will be followed in carrying on the various relationships between the company and using units. This will aid in expediting service to the using units. The procedures that should be covered by the SOP for external operations include the following:

- (1) Maintenance responsibilities of the using units, forms to be used, and procedures to be followed to obtain maintenance service.
- (2) Information concerning requisitions, turn-ins, and other supply operations.
- (3) The scope of technical assistance service and how this service will be provided.

Section IV. MAINTENANCE OPERATIONS

24. General

The company, generally speaking, employs two production methods. These are the production-line or assembly-line method and the job shop method. The method used depends upon the materiel to be repaired and the personnel, facilities, and time available. Frequently, a combination of both methods may be employed.

a. In an operating situation, the air equipment maintenance platoon headquarters administers and controls the maintenance operations performed by the platoon. It can be regarded, therefore, as a shop office. In this capacity, its specific functions may include the following:

- (1) Assigning work to and coordinating activities of the repair sections.
- (2) Routing and controlling the flow of work to the repair sections.
- (3) Employing the tools of production control to—
 - (a) Reroute work, when necessary, to utilize the capabilities of all repair sections.
 - (b) Temporarily reassign personnel to meet workload demands.
 - (c) Take appropriate action to expedite the delivery of maintenance operating supplies to meet demands.
 - (d) Arrange for the prompt evacuation of materiel as required.
- (4) Maintaining production records and reports.
- (5) Maintaining required reports on all maintenance operations.

b. Within the repair sections, a section chief is responsible for the proper movement, control, and performance of work. They perform, or supervise the performance of, the following:

- (1) Equalizing workloads by the assignment of jobs to the various teams within the section.
- (2) Coordinating the work of the various teams of the section.
- (3) Reassigning personnel from one job to another to obtain the best productive effort, and maintaining a system of cross-training to facilitate such reassignment.
- (4) Conducting in-process inspections to assure that maintenance is being performed properly.

- (5) Keeping the shop office informed of the progress of each job, changes in the status of each job, and any bottlenecks in section operations.
- (6) Ordering parts that are required for specific jobs when the requirement for such parts were not determined by initial inspection.

25. Production Control

a. General. Production control is the application of commonsense, good judgment, and necessary managerial tools to direct and control the flow of work in a manner that results in a maximum output of quality work. This is accomplished by balancing the workload within the company to eliminate overloads or underloads, by keeping abreast of the status and quantity of work in order to prevent bottlenecks, by controlling the quality of work performed by repairmen, and by improving operational procedures.

- (1) Overload conditions can result from initial improper routing of work, inability of repairmen to keep pace due to the number of repair tasks of the same type, a substantial reduction of the number of personnel for any reason, or from acceptance of jobs that should have been evacuated.
- (2) Overloading may be prevented by the distribution of work so that all sections are working at or near capacity. This requires carefully planned routing of jobs entering the shop.
- (3) When overloads and underloads develop despite careful planning, the problem may be resolved by rerouting work. This may in-

volve movement of the item to another shop section or, if movement is impractical due to the partial disassembly of bulky equipment or other factors, repairmen from other sections may be moved to the job. Temporarily adding personnel from sections which have less than capacity workloads is one solution; but individual capabilities must be considered in the shifting of personnel from one section to another. When personnel of a unit are cross-trained in several specialties, the shifting of personnel becomes less of a problem.

- (4) If a lack of maintenance operating supplies creates backlogs, immediate steps should be taken to expedite the supply of the necessary supplies. In the meantime, those maintenance operations which do not require parts or for which supplies are available should be performed.

b. Procedure. Production planning and control operations vary from one quartermaster air equipment repair and depot company to another, for no one system can satisfy the requirements of all conditions. General procedures that can be used as a guide to develop practices to meet any requirement are as follows:

- (1) Exercise management control and stock accounting for all maintenance operating supplies used by the company.
- (2) Maintain complete and current supply publications and other administrative or policy directives affecting quartermaster air delivery item supply, maintenance, and service activities.

- (3) Prepare production schedules and establish procedures in order to provide for an efficient flow of work and maintenance operating supplies to the repair sections.
- (4) Provide for centralized control for the flow of incoming items requiring maintenance.

c. *Devices.* Effective production control demands prompt action based on current and readily available information. It requires a continuous flow of current data from all sections of the unit. Such data can be maintained by means of—

- (1) A *production control board*, which is a device used to present visually current information on the status of jobs, location of jobs within the company, and the job conditions of the repair sections. It presents an accurate picture of the distribution of work within the company and is extremely useful in promptly answering queries pertaining to specific jobs and in determining how work should be routed or rerouted. The board may be of any design that meets the requirements of the unit. It should, however, indicate the repair sections involved in the maintenance operation, the status of jobs, the progress of each item through the section, and the workload condition of the sections.
- (2) A *control file*, which is used to house job orders. Here again, design will be dictated by the requirements of the unit. The files should be divided into sections and the job orders moved from section to section as progress is made on a particular job. The file

may, for example, be divided into one section for job orders to be accomplished but for which parts are not yet available; a second for job orders as they enter the repair sections; a third for job orders on which work is being performed; a fourth for job orders which have been completed, have passed the final inspection, and are awaiting pickup; and a final section to house temporarily the job orders on work that has been completed and picked up but for which pertinent records, such as time sheets and parts requisitions are incomplete.

- (3) A *job order register*, which is a multiple-purpose managerial tool used to record all work requests and job orders received, whether the repair is accomplished in the repair sections or not. It also indicates the types of equipment being repaired in each section and the number of job orders assigned to each, and identifies the type of repair operation required, the time consumed, and the disposition of the item. As with the other tools of control, the design and use of the register may vary.
- (a) Local policy may require all work requests and job orders to be entered on the same form, regardless of the type of repair required. In this case the job order register will contain columns for each principal repair section. It may be preferable, however, to sectionalize the register by job type. The register would then contain sec-

tions for each principal repair section of the unit. All jobs of one type would appear on one register, thereby facilitating further the location of information on particular jobs through isolation of the job by type.

(b) The job order number should identify the section responsible for accomplishing the major portion of the work and the organization or activity initiating the work request. The final inspection column is not completed until the work performed by each of the repair sections involved is determined to be satisfactory.

(c) Job order numbers are assigned to work requests in numerical sequence within each section.

d. Implementation. Section chiefs and supervisors are responsible for seeing that production control measures are properly implemented within the repair sections. To do this—

- (1) They must see that the sections are divided into teams, as appropriate; maintain a proper balance of skills among teams so that each will be able to perform required operations; provide sufficient space and equipment for each team; and assign work within the limits of team capabilities.
- (2) Upon receipt of a job from the production control and supply platoon, the section chief should assign the job to a team having space available to complete the job within the allowable time limits. Each team chief thereafter must closely supervise each job being accom-

plished by his personnel. He must know the status of supplies needed for each job and must be prepared to undertake another repair job if parts needed for a particular job are not available in supply or cannot be fabricated. He must be prepared at all times to shift personnel in a manner that will insure that all work progresses according to schedule and that manpower is not wasted.

26. Quality Control

Inspection constitutes one of the most important aspects of the maintenance function. It is the means by which the commander can control the quality of the work done in the platoon. Personnel selected for inspection duty should be highly skilled repairmen able to diagnose deficiencies in a piece of equipment, prescribe necessary repairs, and accurately determine the adequacy of the repairs performed.

a. Material should be thoroughly inspected upon receipt to determine whether it is repairable or whether it should be salvaged. If an item is to be repaired, all essential repairs must be specified on the job order. The inspector decides whether defective components or assemblies will be replaced or repaired. His determination is based upon the time and equipment necessary for each operation, and the availability of maintenance supplies.

b. In-process inspection is extremely important. Emphasizing such inspections will significantly reduce the frequency of rejections by final inspectors. It is often easier to detect potential deficiencies while the repair of equipment is in progress than to find them after the work has been completed. Often, when equip-

ment is dismantled, deficiencies can be noted which may not be detected at any other time.

c. Every piece of materiel must be inspected prior to its release from the company. The final inspection is the most important means of controlling the quality of the work. Defective repair jobs should be returned for correction.

27. Parachute and Textile Repair

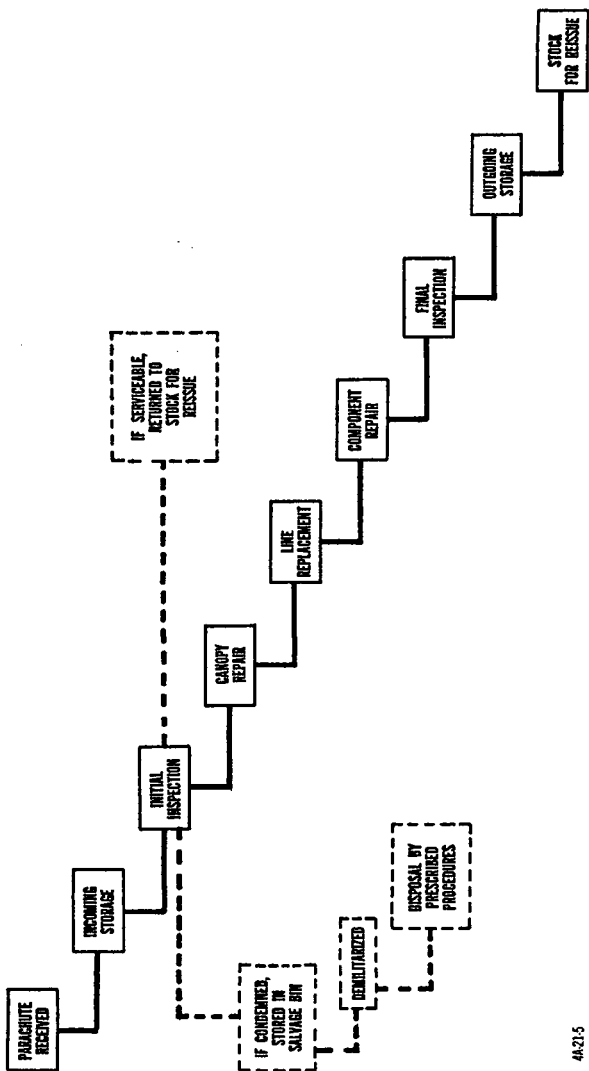
Repair of cargo and personnel parachutes is the function of the parachute and textile repair sections. Repairs are performed in accordance with procedures outlined in AR 750-1670-2.

a. Parachutes received for repair are inspected and segregated according to types of repairs needed and assigned to appropriate areas of the shop. Serviceable parachutes are turned over to the air supply and service platoon for reissue to using units. Unrepairable items are removed to the salvage area for disposal in accordance with prescribed procedures. Parachute canopies are repaired in one area of the shop in which sewing machines, cloth-cutting machines, and post-maintenance storage facilities are provided. Replacement of lines and component repair may be performed in other parts of the shop when space is available. Following repair, items are given a final inspection and placed in storage pending return to the air supply and service platoon.

b. An example of parachute repair work flow is shown in figure 5.

28. Platform Repair

Repair of platforms, platform assemblies, and other



4A-21.5

Figure 5. Parachute repair flow chart.

wood and metal components of air delivery kits is normally the function of the platform repair shop. Items received at the platform repair shop are inspected and segregated according to types of repairs needed. Unserviceable but repairable items are assigned to appropriate areas of the shop for repairs. Serviceable items are picked up by the air supply and service platoon for placement in stock. Unrepairable items are removed to the salvage area for disposal as prescribed by higher headquarters. After repairs are completed, items are given a final inspection and stored pending reissue. An example of platform repair work flow is shown in figure 6.

29. Records and Reports

Section chiefs are responsible for keeping accurate records and reports of work accomplished by individuals or teams, and by other activities of their respective sections.

a. Army Parachute Log Record. The Army Parachute Log Record, DA Form 10-42, may be called a parachute's diary. It is tied into the pocket on the parachute and must remain with the parachute at all times. Appropriate entries will be made each time the parachute is jumped or dropped, packed, inspected, repaired, modified, or drop-tested.

b. Individual Repair Report (Air Equipment). The Individual Repair Report (Air Equipment), DA Form 10-231, is prepared daily by each repairman, signed by his section chief, and turned in at the end of each workday. This report (fig. 7) is used to prepare a consolidated repair report (c below). DA Form 10-231 includes the type of equipment being repaired, the

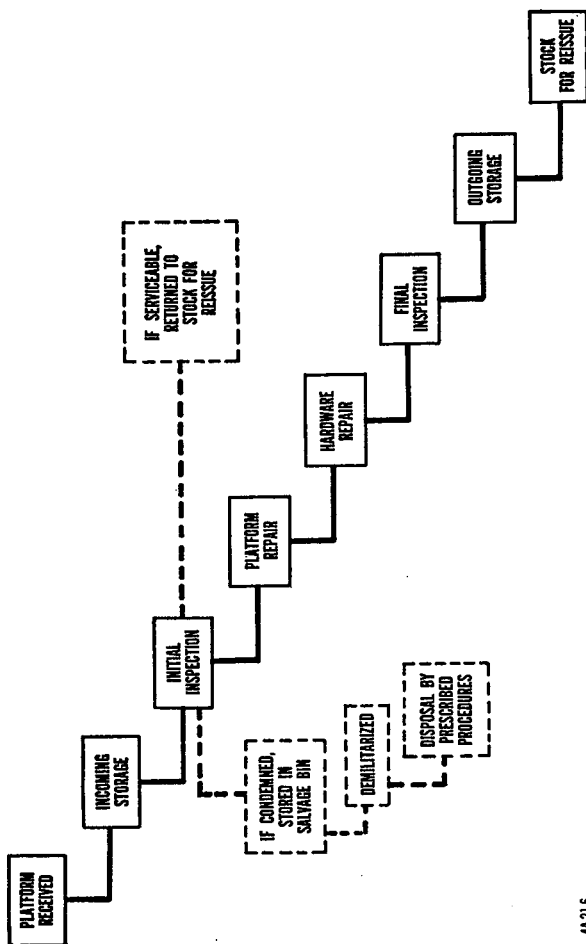


Figure 6. Platform repair flow chart.

4A21-5

supplies and air delivery equipment. This report (fig. 8) also provides an overall record of work accomplished and is a summary of the progress made.

CONSOLIDATED REPAIR REPORT - AIR EQUIPMENT (FM 10-32)				DATE 21 OCT 19--
TO: HEADQUARTERS, QM AIR EQUIPMENT REPAIR AND DEPOT COMPANY			FROM: AIR EQUIPMENT MAINTENANCE PLATOON	
QUANTITY	REPAIRED	NOT REPAIRED	ITEM	REMARKS
a	b	c		
2	2	1	Parachutes T-7, T-10	Five Replacement
6	5	1	Parachutes T-7, T-10	Patched
5	5	0	Parachutes T-10	Sections Replaced
REMARKS				
NAME, GRADE AND TITLE OF PREPARING OFFICIAL (Print or Type)			SIGNATURE	
A. V. WRIGHTS, C.W.O.			A. V. Wrights	
DA FORM 10-232 JAN 57				

Figure 8. Consolidated repair report (air equipment).

d. *Parachute Tags.* When a personnel or cargo parachute is transferred from a unit to a maintenance activity or, when inspection determines that the parachute requires repair or modification, it will have attached to it a fully completed identification tag indicating the serviceability status of the parachute. When

a parachute is transferred from the service and classification section to the repair section of the air equipment repair and depot company, the tag need not be completed in full but will be attached to the assembly. Personnel certified as qualified to execute and authenticate the inspector's block on each tag will be so designated in writing by the air equipment main-

REPLACES GNC FORM 64M REV 2 JUL 51 WHICH MAY BE USED DA FORM 10-117 1 FEB 54 WARNING: UNAUTHORIZED PERSONS REMOVING, DEFACING OR DESTROYING THIS TAG MAY BE SUBJECT TO FINE, IMPRISONMENT OR BOTH.	REPAIRABLE OR REWORK TAG (SR 742-395-8)	
	STOCK NO.	PART OR DRAWING NO.
	1670-451-6650	47 J 55 25.
	NOMENCLATURE	SERIAL NO.
	T-10 Reserve	DA51-16750
MANUFACTURER	ORDER OR CONTRACT NO.	
Reliance	666(033)5566	
QM ACTIVITY	INSPECTOR	DATE
333d	L.L. AMES	20 Oct. 1954
Aerial Supply Co.		
SHOW REASON OR DIRECTIONS FOR REPAIR OR REVERSE SIDE		

[illegible]

Figure 9. Reparable or rework tag.

tenance officer. Only these certified individuals will be authorized to remove or replace the Repairable or Rework Tag, the Modification Work Order Tag, or the Rejected or Condemned Tag.

- (1) *Repairable or Rework Tag (Green)*. The Repairable or Rework Tag, DA Form 10-197, is used when inspection of a parachute shows that repairs or parts replacement are necessary. The tag (fig. 9) is attached to the parachute as a guide to inspector-testers and parachute repairmen (AR 750-1670-2).
- (2) *Modification Work Order Compliance Tag (Blue)*. The Modification Work Order Compliance Tag, DA Form 10-199, (fig. 10) is used to tag a parachute or other piece of air delivery equipment, where modification must be made on it in accordance with an applicable Department of the Army modification work order.

DA FORM 10-199 1 FEB. 54 UNAUTHORIZED PERSONS REMOVING THIS TAG MAY BE SUBJECT TO FINE, IMPRISONMENT OR BOTH	MODIFICATION WORK ORDER COMPLIANCE TAG (AR 740-806-8) THE FOLLOWING MWO MUST BE COMPLIED WITH PRIOR TO ISSUE FOR SHIPMENT OR USE	
	MWO NO. <u>10-501</u>	DATE OF MWO <u>13 JUNE 1955</u>
	PURPOSE OF MWO <u>MODIFICATION OF LOWER LATERAL BAND</u>	
	QUARTERMASTER ACTIVITY <u>333RD AERIAL SUPPLY COMPANY</u>	
	DATE <u>16 JUNE 1955</u>	INSPECTOR <u>Wairbox</u>

4A-21-10

Figure 10. Modification work order compliance tag.

- (3) *Rejected or Condemned Tag (Red).* The Rejected or Condemned Tag, DA Form 10-198, is used when inspection shows that a parachute is so badly damaged that it is no longer repairable or when inspection shows that a parachute has been in service too long or used in a maximum number of jumps. The Rejected or Condemned Tag (fig. 11) is also used if a parachute is beyond economical repair and suitable only for salvage. Inspectors will tag the assembly and give it to salvage personnel for disposal.

REJECTED OR CONDEMNED TAG (AR 750-1470-2)		
STOCK NO. 1670-269-1115	PART OR DRAWING NO. MIL-C-5040	
SERIAL NO. DEPLOYMENT BAG	SERIAL NO. DA 54-147096	
MANUFACTURER JQMD		DATE MPD. MAR 1954
QM ACTIVITY 333RD AERIAL SUPPLY CO.	INSPECTOR Wairbon	DATE INSPD. MAR 1960
SHOW REASON OR AUTHORITY FOR CONDEMNATION ON REVERSE SIDE		

REPLACES QAC FORM 10-198, 1 FEB 64
WARNING: UNAUTHORIZED PERSONS REMOVING, DETACHING OR DESTROYING THIS TAG MAY BE SUBJECT TO FINE, IMPRISONMENT OR BOTH.

4A-21-11

Figure 11. Rejected or condemned tag.

- (4) *Accepted or Serviceable Tag (Yellow).* The Accepted or Serviceable Tag, DA Form 10-196, (fig. 12) is attached to the parachute when repairs have been completed and final inspection has been made.

e. *Work Output Summary.* An informal report summarizing the work accomplished is usually prepared by company headquarters periodically or on request. The summary shows the military or civilian labor employed, the amount of equipment received and disposed of, and the total manhours expended in this work.

ACCEPTED OR SERVICEABLE TAG (AR 780-1470-2)			
STOCK NO. 670-289-6499		PART OR DESIGN NO. MIL-C-702 B	
NOMENCLATURE 35' DIA. BACK PARACHUTE PERSONNEL TRA		SERIAL NO. DA 53-5932	CONDITION 1
MANUFACTURER Warren		ORDER OR CONTRACT NO. AF 33(600)6795	DATE RPD. MARCH 1953
OR ACTIVITY 333^d AERIAL SUPPLY Co.		INSPECTOR Wairborn	DATE EMP. 6 APR 55
NEXT INSPECTION REQUIRED 6 JUNE 1955			

REPLACES
DA FORM 10-194
1 FEB 54
WHICH MAY BE USED.
REV 3 JUL 51
REV 1 JUL 51
WARNING: UNAUTHORIZED PERSONS REMOVING
THIS TAG OR DESTROYING IT MAY BE SUBJECT
TO PUNISHMENT OR DEATH.

MODIFICATION WORK ORDER COMPLIANCE RECORD			
WFO NO.	ACTIVITY	DATE OF COMPLIANCE	INSPECTOR
10-501	333^d AERIAL SUPPLY Co.	7 APRIL 1955	Wairborn

ADDITIONAL INFORMATION
MODIFICATION COMPLIED WITH.

4A-21-12

Figure 12. Accepted or serviceable tag.

Section V. SUPPLY AND STORAGE OPERATIONS

30. General

In addition to its maintenance mission, the quartermaster air equipment repair and depot company has a supply responsibility. The supply operations in which the company is engaged can be classified as organizational supply, shop supply, and technical supply. Organizational supply includes the operations concerned with obtaining and replenishing individual clothing and equipment and organizational supplies and equipment organic to the company. Shop supply includes all the functions required to obtain, store, and issue maintenance operating supplies that the company requires to perform its maintenance mission. Technical supply includes the functions required to obtain, store, account for, and issue quartermaster air delivery items required by supported units.

31. Technical Supplies

The company operates a facility which is, in reality, a small depot, the operational and administrative procedures of which are similar to those of larger quartermaster or general depots. The primary difference is the type and quantity of items handled. Another difference is that fact that the company is its own main source of supply, that is, most of the equipment that it supplies it has repaired for return to stock and reissue.

a. The sections of the air supply and service platoon may be regarded as the stock control element and the storage element of the depot. The extent to which the company is involved in stock control functions depends

primarily upon theater army policy, command directives, and other guidance and instructions prescribed by higher headquarters.

(1) The company may, under certain circumstances, be assigned a mission that requires it to transmit requirements for quartermaster air delivery equipment to a designated supply agency in the United States. In such an event, the company would have an extensive stock control function that would require attachment of teams or detachments of stock control specialists and technicians from the Quartermaster Service Organization (TOE 10-500). It might also require that the company be furnished, or have access to, automatic data processing equipment such as transceivers and machines to prepare and duplicate prepunched cards.

(2) Under other circumstances, requisitions for quartermaster air delivery items might flow through channels established for quartermaster class II and IV supplies. Under these circumstances, the stock control functions of the quartermaster air equipment repair and depot company would be limited to the following:

- (a) Maintenance of records concerning air delivery equipment received, stocked and issued, and the status and location of stocks.
- (b) Determination of requisitioning objectives.
- (c) Preparation of requisitions for quartermaster air delivery items.

(d) Preparation of reports required by battalion or higher headquarters.

(e) Maintenance of a system of controls to insure effective operation of the company's supply functions.

b. Company personnel handling quartermaster air delivery items must be familiar with Army storage practices. Time and space-saving storage methods must be used. Procedures for storage are contained in TM 743-200. Inspections must be made frequently to reveal and correct supply deterioration, faulty warehousing, fire hazards, and other deficiencies. Regular inventories are required to determine what equipment is on hand and what is required.

- (1) Personnel parachutes must be stored in a dry place under controlled heat and protected from sunlight and dampness. Bins may be constructed of stacked wooden boxes having smooth surfaces. Bins are marked with the quantity, type, and inspection dates of parachutes.
- (2) Cargo parachutes are stored like personnel parachutes, except that medium and heavy cargo parachutes are stacked on pallets or dunnage if suitable bins are not available.
- (3) Textile items, such as cargo covers and pads, will be stored in stacks set on dunnage to protect them from dampness and provide air circulation.
- (4) Wood items that are weather-resistant may be stored in the open when necessary, and dunnage and paulins used. Straps, slings, and

other webbing items should be kept in covered storage.

- (5) Hardware items, such as load binders, parachute release assemblies, suspension clevis assemblies, and link assemblies should be kept in bins in covered storage.

32. Technical Supply Records

a. Requisitioning Document. The Requisition and Invoice/Shipping Document, DD Form 1149-series, is used by the air supply section for requisitioning, receiving, and issuing quartermaster air delivery equipment. Completed documents used in requisitioning activities are debit vouchers and are maintained in a debit voucher file by the section.

b. Consolidated Inventory Report (Air Equipment). The Consolidated Inventory Report (Air Equipment), DA Form 10-228, is used by the air supply section for determining stock levels of parachutes and other quartermaster air delivery equipment on hand or to process unauthorized overages in accordance with supply economy policies. The inventory report, tabulated whenever equipment status or stock levels change, includes equipment on hand, in repair, salvaged, and received. A copy of the report (fig. 13) is retained in the files of the platoon headquarters, and a second copy is forwarded to the company commander. The commander forwards a consolidated report to higher headquarters as directed.

33. Organizational Supply

Although most organizational supply functions are performed by the company supply sergeant, the company commander is responsible for exercising control

company commander is responsible for—

- (a) Having in his possession, or on requisition, all articles currently authorized for his unit.
 - (b) Conducting frequent inspections to insure that all supplies and equipment on hand are complete and serviceable.
 - (c) Insuring that unit personnel have adequate knowledge of the care and maintenance of property and that they understand the principles of supply economy.
 - (d) Insuring that required property records are maintained to indicate at all times the status of supplies authorized for the unit.
 - (e) Making certain that no unauthorized property is on hand and that excesses are being turned in through appropriate channels.
 - (f) Assuming responsibility for all Government property under his control.
- (2) The supply officer, if designated, is responsible for supervising all organizational supply operations in the company. He must assure that supplies are stored and maintained properly and that supply economy is practiced throughout the company. He supervises the preparation of correspondence and reports concerning company supply operations, and assists in the training of personnel concerned with these aspects of company operations.

b. Property Book. The company property book is normally maintained at battalion headquarters by a property book officer. Maintenance of the property book becomes a responsibility of the company com-

mander or supply officer, however, when the company is operating independently.

- (1) The property book officer is responsible for maintaining an informal accountability for company supplies and equipment. This is accomplished in accordance with the procedures prescribed in AR 735-35. He is also responsible for conducting appropriate inventories upon change of individuals possessing hand receipts, upon the change of property book officer, when adjusting discrepancies, or no less frequently than once every six months. Adjustments and entries to the records will be made following the inventories.
- (2) The property book officer is also responsible for initiating inventory adjustment action and for fixing responsibility for lost, damaged, or destroyed property. In so doing, he prepares the necessary documents in accordance with the provisions of AR 735-10 and AR 735-11, as applicable.

CHAPTER 4

ADMINISTRATION

34. General

Administration comprises the management, guidance, training, supply, physical conditioning, leadership, discipline, and morale of company personnel. Normally, instructions concerning mess, personnel administration, and training will be contained in standing operating procedures of the battalion or other command headquarters to which the company is attached. Within such directives, the company commander is responsible for the administration of his company. He may delegate authority for specific administrative functions or may assign specific duties to other company personnel. He cannot, however, delegate responsibility for what his company does—or fails to do.

35. Mission Accomplishment

When the quartermaster air equipment repair and depot company is assigned a mission a positive course of action is required. This course of action is, in effect, a decision resulting from an examination of all factors which influence the accomplishment of the mission. It may be made hastily or deliberately, depending upon the time available. In either case, it should follow the accepted form and sequence.

a. The first step is to thoroughly understand the mission. The company commander should contact command headquarters if he feels additional information or clarification is needed.

b. The next step is to consider the advantages and disadvantages of each possible course of action. At this point, the commander should isolate the governing factors of the situation, giving consideration, as required, to time, capabilities, and condition and status of company supplies and equipment.

c. The final step is the decision, which translates the course of action into clear and concise orders, directives, and instructions. Subordinates should be advised of the specific functions they are to perform. Their instructions should allow for exercising initiative to conform to changing or unanticipated situations. Tasks should be properly allocated and delegated. The skill of the commander is measured to a considerable degree by his ability to decentralize duties and supervise the work of assistants.

36. Personnel Administration

Personnel administration may be roughly divided into two major elements: leadership, by which the company becomes an integrated well-coordinated team; and recordkeeping and reporting, which constitute official action.

a. The first of these is entirely the commander's task. As a commander, he has the authority to give orders and to see that they are fulfilled. Moreover, as a leader, he is constantly being observed and judged by his subordinates. He must earn and deserve their obedience, respect, and confidence.

b. The second of these elements is normally performed by subordinates. Procedures for the maintenance of required personnel records are prescribed by Department of the Army publications and/or instruc-

tions of the headquarters to which the company is attached. In some instances, the company commander may be required to place company personnel normally assigned these tasks on duty with the command headquarters. In other instances, higher headquarters may regard the major portion of these tasks as falling within the purview of the company commander.

(1) *Assignment of personnel.* The company commander is required to assign personnel according to their qualifications (MOS). There will be circumstances, however, when he will deem it advisable to reassign personnel in order to make better utilization of their skills and for reasons of safety, health, or morale. When such conditions exist, the commander should initiate action to effect the reassignment. Conditions under which enlisted personnel may be reassigned and the procedures to be followed are discussed in AR 614-240.

(2) *Qualification records.* The Enlisted Qualification Record, DA Form 20, and the Officer's Qualification Record, DA Form 66, reflect the qualifications of personnel—duties performed, skills acquired, etc.— and should be used by the commander to determine the training and assignments, including duty assignments, of company personnel. Although these records are normally maintained at battalion headquarters, the company commander should periodically review them in order to keep informed on the qualifications of personnel under his command. The prepara-

tion and maintenance of qualification records is covered in AR 140-138, AR 611-103, and AR 640-203.

- (3) *Efficiency ratings.* The company commander is required to rate periodically the efficiency of personnel—officers as well as enlisted men—under his command. The commander should make these ratings fairly and impartially, being careful not to be influenced by his personal likes or dislikes for the man being rated. AR 623-105 and AR 623-201 discuss the procedures to be followed in rating personnel.
- (4) *Promotions and demotions.* The promotion and demotion authority of the company commander is specified in AR 624-200. Promotions and demotions are aspects of personnel management which can either improve or disrupt the morale and efficiency of the company, depending upon how they are handled. Promotions should not be automatic nor based on partiality. Each individual should be informed of the qualifications and requirements for the next higher grade and encouraged to prepare himself for a more responsible position. It is the responsibility of the commander to use discretion when making or recommending demotions, and, when possible, the individual being considered for demotion should be given an ample opportunity to make amends or improve his efficiency before such action is taken. In borderline cases, the offender should be given the benefit of the doubt.

- (5) *Awards, decorations, and commendations.* The company commander may recommend awards and decorations for company personnel. These recommendations are made to battalion headquarters. The criteria for such awards and the procedures to be followed are described in AR 672-5-1. In addition, the commander is authorized to award letters of commendation to company personnel for outstanding performance in their work, suggestions for improving operations, etc. Copies of these commendations should be filed in the individual's personnel records jacket. Like promotions and demotions, the presentation of commendations can improve or disrupt morale—although to a lesser degree—depending upon how they are handled.
- (6) *Morning report.* The Morning Report, DA Form 1, is prepared daily by the company clerk and reflects the day-to-day strength of the company, transfers, assignments, and promotions. It is the basis for ordering rations, and other items of supply issued on a troop strength basis. The morning report is also the form from which most of the information recorded on personnel records is obtained. It is authenticated by the company commander or by an officer or warrant officer authorized by the commander or higher authority. The morning report is prepared in accordance with AR 335-60.
- (7) *Duty roster.* The Duty Roster, DA Form 6, is prepared and maintained for the recording

of duty performed by each individual of the company and to serve as a basis for the fair and equitable distribution of duty assignments such as guard, kitchen police, etc. A separate roster is usually maintained for each type of duty. The duty roster is maintained by the first sergeant in accordance with the procedures prescribed in AR 220-45.

- (8) *Individual sick slip.* The Individual Sick Slip, DD Form 689, serves as a communication media between the commander of sick or injured personnel and the medical officer. It is used first to route men reporting for sick call to the dispensary, and then to inform the individual's commander as to the disposition of each case. Normally, the sick slip is prepared by the first sergeant or company clerk, and is carried by the sick or injured individual to the medical facility. It is then completed by medical personnel and returned to the company commander. Although the sick slip is normally initiated at the company of the sick or injured personnel, in cases of emergency it may be initiated at the medical facility. The preparation and use of the sick slip will be in accordance with AR 40-207.
- (9) *Mail service.* The company must have efficient mail service to assure that personnel receive mail promptly and to facilitate the dispatch of mail initiated by company personnel. The company commander will appoint a postal officer and a mail clerk to carry out these functions. The duties and

responsibilities of the postal officer and mail clerk are outlined in AR 65-75.

37. Messing

Although the feeding of company personnel and the operation of the mess is the responsibility of the commander, he may—and usually does—designate a subordinate officer to serve as mess officer. AR 30-41 and TM 10-405 cover mess operations and the duties of personnel. Under certain conditions, battalion or other headquarters to which the company is attached may direct operation of a consolidated mess. Similarly, the battalion or other headquarters may be attached to the company for messing.

38. Training

The company commander is responsible for the training of the company. This responsibility embraces not only technical operations but also tactics and fundamental military procedures. Training responsibilities must be clearly defined. Subordinates must be held fully accountable for the conduct of training and performance of their assigned missions. Early in the training cycle the commander must recognize individuals capable of filling positions of leadership so that their potentialities may be fully utilized. He must also identify quickly those incapable of assuming enlarged responsibilities. At an appropriate time in the training cycle, subordinates should be permitted to plan and conduct training problems involving personnel under their control.

a. Objective. The ultimate objective of training is to develop a company capable of performing assigned

missions. This requires thorough and continuous training based upon fundamental doctrine and principles discussed in FM 21-5, as well as in policy and procedural directives and mobilization plans, published by headquarters, USCONARC. The guidance, suggested methods, and procedures for training quartermaster specialists and technicians are contained in Army Training Program (ATP) 10-110. Suggested methods, procedures, and schedules for unit training of this company are contained in ATP 10-417 and appropriate Army Subject Schedules. While these publications are a means of standardizing training, they may be modified to fit specific training situations.

- (1) The training schedule developed by the company should prescribe the date, hour, subject, place, reference material, and uniform for each period of instruction. It will normally be forwarded to battalion headquarters for review and publication as part of the overall battalion training program.
- (2) TOE 10-417 designates cadre positions which must be filled by personnel trained and qualified to perform essential duties in the formation, administration, and training of similar units. In order that transfer of the cadre will not deny sufficient experienced personnel to the parent organization or the newly formed unit, alternate personnel should be qualified and trained for each cadre position as quickly as practicable. This requires, in most instances, training of company personnel in both their primary and secondary military occupational specialties.

b. Inspections. Higher headquarters may periodically inspect to determine whether the approved training program is being executed and estimate the efficiency of the unit training schedule. The value of the training is determined by a performance or written test, oral questioning, or observation. The headquarters conducting the inspection normally follows it with a critique that emphasizes good and bad areas disclosed and suggests required corrections.

c. Tests. Army Training Test 10-417 and field exercises are conducted as a part of the normal training program to evaluate the proficiency of the unit. Mobility test exercises are conducted by higher headquarters to observe and evaluate actions taken in implementation of readiness plans.

39. Records and Reports

a. Policy File. While not mandatory, the company commander should maintain a policy file containing a summary of such decisions, experiences, directives from higher headquarters, or other information to serve as a guide for company personnel. The policies may be in the form of brief notes, plans, or directives and may include charts, tables, or other control media.

b. Unit Journal and History. Depending upon a specific command or theater army policy, the preparation and maintenance of a unit journal and history may be regarded as a command function. The history may be a monthly or quarterly review of all company activities. The unit journal, if required, may be prepared on a daily basis to give a chronological record of events. Detailed instructions concerning the scope and preparation of unit histories are contained in AR

220-345. Information on the unit journal is contained in FM 101-5.

40. Inspections

Frequent staff visits and inspections to determine the military and technical efficiency of the company will be made by the commander or members of the command headquarters to which the company is attached. Inspections may be classified as—

a. Command. Command inspections cover such activities as food service, sanitation, discipline, and general military effectiveness.

b. Administrative. Administrative inspections are conducted to determine whether the company is complying with prescribed regulations and directives, standing operating procedures, and/or instructions from higher headquarters.

c. Command Maintenance. Command maintenance inspections, conducted in accordance with AR 750-8, are made to—

- (1) Insure the adequacy and efficiency of organization maintenance.
- (2) Establish the adequacy and the use of technical manuals.
- (3) Determine the adequacy of records, authorized levels of equipment, supply economy practices, and preservation and safekeeping of authorized tools and equipment.

41. Movement

The company is designated a fixed unit. It has only enough organic transportation for supervisory, liaison, and internal supply functions. Additional

transportation must be provided for movement of the personnel, supplies, and equipment of the company and/or platoons.

a. Rail Movement. When the company moves by rail, it is normally to a prepared location. In such a move, the company commander is normally directed to submit requirements for space and facilities to battalion headquarters. He may also be required to furnish personnel for specified duties incident to the move. The commander must prepare a loading plan for rail movements and keep it up to date. FM's 100-5, 100-10, and 101-10 contain detailed information on rail movements, including types, characteristics and capacities of rail cars; loading plans; and loading scales and tables.

b. Air Movement. Air movement normally applies to personnel only. When directed, the company commander may be required to coordinate with battalion and/or other higher headquarters in all matters incident to the move. He may be authorized to maintain direct liaison with the air transportation facilities involved.

c. Water Movement. When the company moves by ship, the preliminary information required of the company commander may include passenger lists, tonnages, cubages, and types of packaging of supplies and equipment. He may also be called upon to furnish personnel for liaison duties at the embarkation point.

- (1) Army regulations and directives of headquarters, USCONARC, prescribe policies and procedures for preparation of units for over-sea movement. These require unit commanders in the continental United States to

maintain current movement tables at all times. They set forth instructions that must be complied with when oversea movement of the unit is required.

- (2) Quartermaster battalion headquarters is responsible for providing supervision and assistance to commanders of subordinate units in the event of oversea movement. Typical actions taken by battalion headquarters are indicated in FM 10-53. Particular situations and local ground rules in theaters of operations will normally require compliance with similar procedures.

d. Motor Movement. The type of motor movement depends on the orders received from the headquarters to which the company is attached. If company elements move with other units attached to the battalion headquarters, the company movement plans will be consolidated into those for the battalion. If an independent movement is authorized, the company commander advises the battalion headquarters of his plans and the transportation needed. He will be required to advise the battalion commander of the time and date when operations will cease at the present location and begin at the new one.

- (1) Normally, routine motor movements (marches) will be covered by the company SOP. However, items such as routes, initial points, orders of march, speed, and destination must be specified separately for each move. Motor marches are covered in FM 25-10.

(a) A warning order should be used to alert

the company for the impending move. This affords platoon and section leaders an opportunity to phase out current work assignments and dispose of work in the shops.

- (b) When sufficient time is available between the issuance of the warning order and the time of the move, the commander plans for the dispatch of reconnaissance and advance parties. If time is critical, he may organize only one of these parties. The party should consist of at least one officer and sufficient enlisted personnel to arrange for or accomplish the work required at the new area.
- (c) The initial point (IP) will be designated and a time established for each march unit to reach and cross it.
- (d) The tactical situation will determine the formation for the march. Elements of the company whose operating sites will be furthest from the entrance to the new company area should be placed near the front of the column in order to alleviate traffic congestion in getting off the road and into the area. The advance party, including the mess section, will also be near the head of the column, unless the advance party has preceded the main body of the company to the new area. Personnel of CBR monitoring and survey teams may be located near the head of the column to take readings en route when the situation requires.
- (e) The rate of march will be governed by the

speed of the slowest vehicle in the column. This vehicle should be placed at or near the head of the column. During daylight travel on good roads the rate of march is not more than 20 miles per hour for the column. The rate for night marches without lights is 8 to 10 miles per hour on good roads.

- (f) For daylight marches, the distance between vehicles of the column will be specified in the march order. During night marches, the normal distance between vehicles is that which allows the driver to see the vehicle ahead of him. The time interval between march units in the column is 1-3 minutes.
- (2) A high degree of training and discipline will be required of all personnel, if the company is to be properly controlled during a road march. Detailed supervision is necessary to insure that the column is formed according to plan, and an officer will be assigned to check the column at the initial point to assure the correct order of march and compliance with the time schedule established in the march order. One vehicle in each march unit will be designated as the control vehicle. In addition, route markers and road guides will be used to assist in the control of the column. All officers and noncommissioned officers of the company are responsible for supervision of the column on the march. Items to be checked by these personnel include distance between units, speed, condition of vehicles, and general conduct of march units. Necessary corrections will be made immediately.

- (a) When conditions permit, radio will be used as the primary means of communication when the company is on the march. However, when radio cannot be used, due to security or other reasons, messengers may be employed. Visual signals will also be used.
 - (b) Road guides should be used at all points where there may be confusion as to the correct road to be taken by the column (e.g., crossroads, road forks, and through towns and cities). The road guides will generally be dropped off at their posts by the advance party, and picked up by a vehicle at the rear of the column.
 - (c) A halt will usually be made for the final 15 minutes of the first hour and the last 10 minutes of each succeeding 2 hours. These periods will be based on the time that the leading element of the column crosses the initial point. The entire column will halt at the specified times. Prior to the halts, all elements of the column will assume the proper distances. During halts all drivers and vehicle crewmen will perform their scheduled "at halt" maintenance operations. Halts for refueling will be scheduled in advance.
- (3) A rear party may be left in the old area to complete closing-out operations. This includes completing critical repair jobs, informing supported units of the new operating area,

and such police functions as may be assigned. The composition of the party depends upon the work to be completed to close out the old area. The party maintains communications with company headquarters and remains at the old area until summoned by the company commander.

CHAPTER 5

SECURITY AND DEFENSE

42. Responsibility

The responsibility for the security and defense of the quartermaster air equipment repair and depot company rests with the commander. He must plan and effect measures to insure physical security of the company and its facilities and to defend them against attack. He normally receives guidance and instructions pertinent to the development of the company's defense plan from the headquarters to which it is attached. Generally-adaptable information on physical security of company installations is contained in FM 19-30.

43. Defense Plan

The company defense plan must be flexible and all-inclusive since every situation cannot be foreseen. The plan should assign individual responsibilities and provide for the strongest active defense that can be effected with personnel and weapons of the company. It should be simple, clear, and easily understood by all personnel. Generally, one basic plan with alternate courses of action for meeting various types of attack will be best. Although the company may be attacked by regular enemy ground forces, the company commander's principal concern is defense against attacks by aircraft, missiles, guerrillas, and partisans.

a. Passive defense measures must be used for protection against air attack. The best defense is to

prevent detection by screening the company's facilities from enemy view and by dispersing facilities to minimize damage. Foxholes and slit trenches should be provided for individuals, emplacements for weapons, revetments and cuts for vehicles and other equipment, and covered shelters for command posts and communications equipment. The company commander should study the terrain to locate natural geographic features such as caves, steep hills or cuts. He should also determine the existence and condition of manmade structures such as air raid shelters, mines, tunnels, and other underground installations that can be used to protect personnel and materiel. The following factors should be considered in the selection of specific underground facilities:

- (1) There should be more than one exit.
- (2) An adequate air supply is essential.
- (3) There must be provision for controlling moisture.
- (4) Provision must be made against sealing off or collapse of the facility.
- (5) The facility must afford adequate operating and storage space for personnel and supplies.

b. Defense against ground attack should be formulated on the basis of the following:

- (1) Warning system.
- (2) Sectors of defense assigned to the various elements of the company.
- (3) Familiarization of personnel with defense positions and duties.
- (4) Use of slit trenches and foxholes.
- (5) Assignment of specific personnel and assembly point for a mobile reserve.

- (6) Hasty fortifications covering avenues of approach.
- (7) Camouflage discipline.
- (8) Coordination with adjacent units.
- (9) Plan for perimeter defense.
- (10) Frequent rehearsals and inspections of the defense system.
- (11) Destruction of materiel.
- (12) Frequent test-firing of weapons.
- (13) Firefighting crew.
- (14) Medical evacuation plan.

44. Rehearsals

Plans for security and defense of the area or installation should be rehearsed frequently in order that each individual may become proficient in accomplishing his assigned tasks without hesitation and confusion. The duties of key personnel should be made clear and alternates should be selected in the event key personnel are unable to perform their assigned duties. An effective defense plan that is rehearsed frequently will help minimize damage resulting from enemy air or ground attack.

45. Active Defense

A defense plan for the operating area must consider fields of fire, observation points, routes of approach, and obstacles unfavorable to the enemy. Close coordination with commanders of adjacent units will insure mutual support and assistance, and facilitate assignment of sentinel posts, formation of patrols, and determination of areas of responsibility.

a. Perimeter Defense. A well-organized and ef-

fective defense perimeter aids in protecting the company against surprise attack. Each man in the defense perimeter should be instructed in his mission, zone of fire, and area of responsibility.

b. Warning System. An adequate warning system is the key to defense of the company area. It should include observation posts, trip flares, sentinel posts, and patrols to visit sentinel posts and to cover areas which may afford locations for enemy observers.

c. Obstacles. Natural obstacles such as streams, swamps, ravines, and dense woods near the defense perimeter should be improved with such artificial obstacles as barbed wire, mine fields, booby traps, and roadblocks. These obstacles should be covered by weapons fire.

46. Passive Defense

The company commander must rely heavily on passive defense measures because the company possesses a limited number of weapons and personnel. Passive defense measures will deny the enemy information and observation of company operations and reduce casualties and damage from enemy attack. Against conventional ground or air attack, these measures should include camouflage, concealment, and dispersion.

47. Nuclear and CBR Defense

The defense plan, to be complete, must provide for protection against nuclear and CBR attack. The CBR plan may be prepared as part of the overall unit defense plan or as an annex. All personnel should be trained to promptly recognize nuclear and CBR attacks. They should also be familiar with first aid

measures to be taken and steps to counteract or reduce the effects of the damage. The plan should include—

a. A company standing operating procedure for defense against nuclear and CBR attack.

b. A warning system with provisions to designate the type of attack, if practicable.

c. Description of duties of fireguards, security guards, and unit CBR personnel.

d. Training of all personnel in individual protective and first aid measures.

e. Inspection of materiel received from using units, if contamination is suspected.

f. Methods of segregating contaminated supplies and equipment, if decontamination cannot be accomplished by unit personnel. Segregation should be accomplished by proper marking of the area as a warning to other personnel.

g. Maintaining liaison with chemical units for technical advice and assistance.

h. Use of protective masks, special clothing, and other protective equipment.

i. Use of protective shelters for personnel and supplies.

j. Immunization and field sanitation procedures.

48. Area Defense and Damage Control

Area defense includes provisions for minimizing the immediate effects of mass destruction attacks or natural disasters, and for precluding secondary damage to personnel, equipment, and installations, or enemy followup action such as guerrilla or airborne attack. Area defense and damage control measures include those taken prior to, during, and following such attack

or disaster.

a. The preparatory measures are—

- (1) Adequate prior planning.
- (2) Organizing, equipping, and training damage control personnel.
- (3) Organizing, training, and equipping an area defense force.
- (4) Dispersion and concealment.
- (5) Use of natural cover or protection afforded by terrain features.

b. Measures during and immediately following a mass destruction attack or natural disaster include—

- (1) Control of personnel and traffic (military and civilian).
- (2) Action against guerrilla or airborne enemy.
- (3) Fire prevention and firefighting.
- (4) First aid and evacuation of casualties.
- (5) Protection against chemical, biological, and radiological hazards, to include evacuation from heavily contaminated areas.
- (6) Emergency supply of food, clothing, and water.
- (7) Disposal of unexploded ammunition items.
- (8) Initiation of salvage operations and clearance of debris and other obstructions from roads and installations so that normal operations may be resumed.

c. The quartermaster air equipment repair and depot company commander must survey his operations and make plans to lessen the possibility and effects of an attack, using all means at his disposal. He should also plan the action to be taken during and following the attack in order to continue the performance of the

unit's mission. His plans are coordinated with the plans of other units by subarea or area security controllers in turn. The plan may be modified or augmented so that the composite of the individual plans will fit the requirements of the area. The company may be required to furnish rescue squads whose functions include rescue and removal of casualties, first aid, and decontamination.

49. Demolition

Demolition is a command responsibility. It is normally accomplished on orders of higher headquarters and as a last resort only. The company commander should establish a plan for the rapid and thorough destruction of buildings, equipment, supplies, and records when so directed. The plan must make provisions for rendering unserviceable all equipment and supplies that might be employed by the enemy, and should include priorities of demolition and methods of destruction. If explosives are to be used, the plan should show type, amount, and placement. In order to make cannibalization by the enemy impracticable, each equipment operator must be familiar with the essential parts to be destroyed.

APPENDIX I

REFERENCES

AR 30-41	Field Rations
AR 40-207	Individual Sick Slip
AR 59-106	Operation of Air Force Terminals
AR 65-75	Unit Mail Services
AR 140-138	Qualification Record, Officer, War- rant Officer, Enlisted Personnel.
AR 220-45	Duty Rosters
AR 220-70	Companies—General Provisions
AR 220-345	Unit Histories
AR 310-3	Military Publications—Prepara- tion and Processing.
AR 320-5	Dictionary of United States Army Terms.
AR 320-50	Authorized Abbreviations and Brevity Codes.
AR 335-60	Morning Reports
AR 611-103	Officer Qualification and Classifi- cation.
AR 611-201	Manual of Enlisted Military Occu- pational Specialties.
AR 614-240	Reassignment of Enlisted Per- sonnel.
AR 623-105	Officer Efficiency Reports
AR 623-201	Enlisted Conduct and Efficiency Ratings.
AR 624-200	Appointment and Reduction of Enlisted Personnel.
AR 640-203	Enlisted Qualification Record
AR 672-5-1	Awards

AR 700-2300-1	Motor Vehicles
AR 711-16	Installation Stock Control and Supply Procedures.
AR 725-5	Preparation, Processing, and Documentation for Requisitioning, Shipping, and Receiving.
AR 735-10	Principles and Policies; Accounting for Lost, Damaged, and Destroyed Property.
AR 735-11	Accounting for Lost, Damaged, and Destroyed Property.
AR 735-35	Supply Procedures for TOE Units, Organizations, and Non-TOE Activities.
AR 746-80	Marking of Supplies for Shipment
AR 746-2300-1	Color and Marking of Vehicles and Equipment.
AR 750-8	Command Maintenance Inspections.
AR 750-1670-2	Maintenance of Quartermaster Supplies and Equipment.
DA Pam 108-1	Index of Army Motion Pictures, Film Strips, Slides, and Phonorecordings.
DA Pam 310-1	Index of Administrative Publications.
DA Pam 310-2	Index of Blank Forms
DA Pam 310-3	Index of Training Publications
DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders.

DA Pam 310-7	Index of Tables of Organization and Equipment, Type Tables of Distribution, and Tables of Allowances.
DA Pam 310-30	Index of Supply Manuals, Quartermaster Corps.
FM 5-20	Camouflage, Basic Principles and Field Camouflage.
FM 5-25	Explosives and Demolitions
FM 10-33	Airborne Division Quartermaster Parachute Supply and Maintenance Company.
FM 10-40	Quartermaster Aerial Supply Company.
FM 10-53	Headquarters and Headquarters Detachment, Quartermaster Battalion.
FM 19-30	Physical Security
FM 21-5	Military Training
FM 21-26	Map Reading
FM 21-30	Military Symbols
FM 21-40	Small Unit Procedures in Atomic, Biological, and Chemical Warfare.
FM 21-41	Soldier's Handbook for Nuclear, Biological and Chemical Warfare.
FM 25-10	Motor Transportation—Operations.
FM 57-30	Airborne Operations
FM 100-5	Field Service Regulations—Operations.

FM 100-10	Field Service Regulations—Administration.
FM 101-5	Staff Officers' Field Manual—Staff Organization and Procedure.
FM 101-10	Staff Officers' Field Manual—Organization, Technical, and Logistical Data. Part I.
ATP 10-110	Advanced Individual Training of Quartermaster Personnel.
ATP 10-417	Army Training Program for Quartermaster Air Equipment Repair and Depot (TOE 10-417).
ATT 10-417	Training Test for Quartermaster Air Equipment Repair and Depot Company (TOE 10-417).
TM 10-263	Clothing and Textile Repair Sewing Machines.
TM 10-269	Repair of Canvas and Webbing
TM 10-405	Army Mess Operations
TM 10-500-series	Air Delivery of Supplies and Equipment.
TM 10-591	Sewing Machines for the Repair of Parachutes and Allied Equipment.
TM 10-1600	Organizational Preventive Maintenance Services and Technical Inspections of Materials Handling Equipment.

TM 10-3930-212-series	Truck, Lift, Fork, Gasoline, Rough Terrain, 4 Steerable-Drive Wheels Pneumatic Rubber Tires, Extensible-Lever-Arm-Type Lift, 6,000-Pound Capacity (Baker).
TM 21-305	Manual for the Wheeled Vehicle Driver.
TM 38-230	Preservation, Packaging, and Packing of Military Supplies and Equipment.
TM 38-660-2	Maintenance Instructions and Procedures for Administrative Vehicles.
TM 57-220	Technical Training of Parachutists
TM 743-200	Storage and Materials Handling
TM 743-200-1	Storage and Materials Handling
TB 10-500-series	Packing, Rigging, and Maintenance of Parachutes and Other Air-Type Equipment.

APPENDIX II

SPACE REQUIREMENTS FOR QUARTERMASTER AIR EQUIPMENT REPAIR AND DEPOT COMPANY

1. Assumptions

a. Administrative personnel are housed in tentage. (Tentage required for sleeping quarters will be authorized on a class IV basis.)

b. The operating sections to be placed under shelter are as follows:

- (1) Three parachute and textile repair sections.
- (2) One platform repair section.
- (3) One service and classification section.
- (4) One air supply section.

2. Calculation of Space Needed

a. *Three Parachute and Textile Repair Sections.*

- | | |
|-------------------|----------------------------------|
| (1) Area, Table | = 2,352 sq. ft. |
| (2) Area, Line | |
| Replace | = 1,568 sq. ft. |
| (3) Area, Sewing | |
| Machine | = 280 sq. ft. |
| (4) Area, Storage | = 500 sq. ft. |
| (5) Area, Total | <u>4,700 sq. ft./section, or</u> |
| | 14,100 sq. ft./3 sections |

b. *One Platform Repair Section.*

- | | |
|--------------------|-----------------|
| (1) Area, Conveyor | = 1,000 sq. ft. |
| (2) Area, Shop Set | = 100 sq. ft. |

- (3) Area, Weld Shop = 200 sq. ft.
- (4) Area, Storage = 300 sq. ft.
- (5) Area, Total 1,600 sq. ft./section

c. One Service and Classification Section.

- (1) Area, Table = 700 sq. ft.
- (2) Area, Machines = 40 sq. ft.
- (3) Area, Storage = 4,000 sq. ft.
- (4) Area, Total 4,740 sq. ft./section

d. One Air Supply Section.

- (1) Area, Conveyors = 700 sq. ft.
- (2) Area, Storage , = 150 sq. ft.
- (3) Area, Personnel
Chutes = 350 sq. ft.
- (4) Area, Storage and
Aisles = 10,800 sq. ft.
- (5) Area, Total 12,000 sq. ft./section

*e. Area, Grand Total (Operational
Sections) 32,440 sq.ft.*

BY ORDER OF THE SECRETARY OF THE ARMY:

G. H. DECKER,
*General, United States Army,
Chief of Staff.*

Official:

R. V. LEE,
*Major General, United States Army,
The Adjutant General.*

Distribution:

Active Army:

Tech Stf, DA (1) except	PMS Mil Sch Div (2)
TQMG (25)	PMS Jr Div Units (2)
Tech Stf, Bd (2)	PMS Sr Div Units (2)
USCONARC (4)	USA Corps (3)
OS Maj Comd (5)	Units org under fol TOE:
Log Comd (2)	10-22 (2)
MDW (5)	10-105 (2)
Armies (5) except	10-106 (2)
First, USA (7)	10-107 (2)
Abn Corps (5)	10-337 (2)
Div (2) except	10-407 (2)
Abn Div (5)	10-417 (15)
USAIS (34)	10-445 (2)
USAQMS (25)	10-446 (2)
	10-521 (2)
	10-536 (2)

NG: Units org under fol TOE: 10-22 (4); 10-417 (2).

USAR: None.

For explanation of abbreviations used see AR 320-50.